LIQUIFIER PUMP CONTROL IN AN EXTRUSION APPARATUS

ABSTRACT OF THE DISCLOSURE

An extrusion apparatus employs a method for controlling the output flow rate of a liquifier. The apparatus includes an extrusion head which moves along a predetermined tool path at an extrusion head velocity. The extrusion head carries a liquifier. The liquifier receives a solid element of a modeling material, heats the modeling material, and outputs a flow of the modeling material at an output flow rate. A material advance mechanism is employed to supply the solid element of modeling material to the liquifier at an input rate which controls the output flow rate. In order to control the output flow rate, an extrusion head velocity profile is determined based on the tool path. The input rate of modeling material to the liquifier is then controlled to produce an output flow rate of modeling material from the liquifier that is proportional to a current extrusion head velocity corresponding to the extrusion head velocity profile.

G:\AMK\PATFILE\S697-12.59\APP.WPD